

# SOCI 315: Introductory Statistics II

The University of Calgary, Faculty of Social Sciences, Department of Sociology  
Course Outline, Winter Semester, 2010

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## Required Text

Chava Frankfort-Nachmias and Anna Leon-Guerrero. (2009). *Social Statistics for a Diverse Society, 5<sup>th</sup> Edition*. Thousand Oaks: Pine Forge Press.

Paul Allison. (1999). *Multiple Regression: A Primer*. Thousand Oaks: Pine Forge Press.

## Staying in Contact

Class announcements may occasionally be sent out over e-mail. It is your responsibility to ensure that the university has your correct e-mail address and that your e-mail account is in working order. Outside of office hours or pre-scheduled appointments, the best way to reach us is through e-mail. We cannot guarantee that phone calls will be answered or returned. When e-mailing, please put "SOCI 315" in the subject line of your e-mail to help us reply more efficiently to your e-mails. We will make every effort to reply to your e-mails within 24 hours, but it may take up to 24 hours to respond.

We (the instructor and TA's) are happy to meet with students, but please observe the following so that we may respond to students in a way that is fair and attentive:

- 1) Except for cases in which we have instructed you to email something, we prefer that you contact us by email for administrative purposes only. For instance, you may email us to schedule an appointment outside of office hours.
- 2) Students with substantive questions should come to office hours or schedule an appointment. If you have questions related to grading or course content, see us during office hours or make an appointment. Please note that all grade disputes should be directed to the instructor.

## Course Description

This course will focus on inferential statistics. Inferential statistics is based on using samples to extrapolate to a population. Topics and subjects involved in inferential statistics include probability and the normal distribution, the sampling distribution, confidence intervals, testing differences in means and proportions, non-parametric tests, and analysis of variance. We will also link inferential statistics to correlation, bivariate regression, and multivariate regression.

Please note that this course will expand on the material learned in SOCI 311. We will begin with a brief review of concepts from SOCI 311 before introducing new material, but students for whom it has been some time since they took 311 may need to put in some extra work to get up to speed.

## Prerequisites

SOCI 311 or consent from the Department of Sociology.

## Grading System

A+ = 95 and over	B+ = 80-84.9999	C+ = 67-71.9999	D+ = 54-58.9999
A = 90-94.9999	B = 76-79.9999	C = 63-66.9999	D = 50-53.9999
A- = 85-89.9999	B- = 72-75.9999	C- = 59-62.9999	D- = 49.9999 and lower

You are strongly encouraged to take note of the grading system described above. You will not be able to negotiate a different final grade based on alternative criteria. However, **the grades for a course component may be scaled to maintain equity among sections and to conform to departmental norms.**

## Grade Distribution

Lab Practical	10%
Exam 1	30%
Exam 2	30%
Final Exam ( <b><u>Cumulative</u></b> )	30%

It is unlikely that extra credit will be given. In the unlikely event that an opportunity for extra credit arises, this opportunity will be given to the class as a whole. Individual opportunities for extra credit or to make up points lost due to errors on an exam will not be allowed.

## Course Format

The course setup consists of two 1 hour and 15 minute class lectures per week and one three-hour lab section per week.

The purpose of the lab is to practice questions with your TA's assistance of the type that will appear on your exam. We will also examine how to use SPSS to analyze data with the procedures covered in class.

Note: It is possible that concepts covered in lab may appear on exams. You should plan to attend both the lab and the lecture, and are responsible for any material presented in either lecture or lab on all exams.

## Lecture notes

You will need to take notes every day that we have lectures. I do not offer access to my lecture notes in the event that you miss a class. **If you miss class, it is your responsibility to obtain lecture notes from another student.** However, I will post PowerPoint slides on the course Blackboard for most of the class lectures. It is your responsibility to print out these slides and bring them to class. I will not provide additional copies of the slides (please do feel free to see me if you are not sure how to print out multiple slides to a page—it happens every semester). You will still need to attend class and take notes, even if you have the PowerPoint slides. You are responsible for all information in lectures and your text, even if this information is not on the PowerPoint slides. It is likely that class lectures will include material that is not on the PowerPoint slides.

## Calculator

Your calculator must have exponent (square) and square root functions. **Bring your calculator to every class.** If you fail to bring your calculator, I will not provide a calculator. **It is the student's responsibility to know how to work their calculator, not the instructor's.** Calculators on cell phones will not be permitted in any exams.

## Exams

Only the final exam will be expressly cumulative, but all exams may be indirectly cumulative because they are likely to build on previous material. You will be permitted one 8 1/2 by 11 inch sheet (front and back) of notes during the exams (**not counting the lab practical; no notes will be allowed for the practical**). Attempt to answer all parts of test questions. Exams may a mixture of True/False, multiple choice, short answer, and calculation problems.

**Please note that the schedule in this syllabus is tentative. It is your responsibility to be aware of when an exam will be given and where it will be given.** This policy is for your benefit.

Allowing the exam schedule to be tentative will let me slow down if the class is having particular difficulty. I will try to let you know at least one week before the firm date of an exam.

### **A note on taking exams**

Exams will be administered at the beginning of the class on the day they are to be given. Exams will most likely be administered during your lab periods. The class will typically have two hours to take an exam, but the amount of time may vary. I will announce before the exam how much time will be allotted for the exam. If you show up late for the exam, you will only have the amount of time remaining allotted for the exam. For instance, if you show up half an hour after an exam is handed out, you will have only 90 minutes to take the exam. Once you begin an exam, it is your performance during the allotted time which will be used to determine your grade. You will not be allowed to retake the exam, sections of the exam, or complete at a later date problems you may not have answered. You also will not be allowed to take alternative sections of an exam or an alternative exam and substitute or combine your performance on the exam with alternative grades. This policy still pertains if you have a medical emergency. If you believe that you may have an emergency which may interfere with your performance on the exam, or you show up late because of an emergency, you need to talk to me about it ***before*** you take the exam. Once you begin the exam, it is your performance on that exam, during the time allotted for the exam, which will determine your grade. The only exception to this policy is if you, personally, must be hospitalized while you are taking the exam.

### **Missing Exams**

If at all possible you must provide advance notice to the instructor if you are unable to take an exam on time. All requests for deferral of a course component due to health reasons must be accompanied by written documentation as outlined in the University Calendar and should be obtained while the student has the physical or emotional problem rather than after recovery. Deferrals will be allowed in the following circumstances: illness, domestic affliction or religious conviction. Travel arrangements and misreading of the syllabus are not valid reasons for requesting a deferral. Deferrals will not be granted if it is determined that just cause is not shown by the student.

A student who is unable to write a mid-term exam due to fully documented illness, domestic affliction, or religious conviction will have the weight of that examination applied to the final exam. No make-up mid-terms will be given.

Your instructor reserves the right to authenticate any documentation; a refusal or inability by the student to provide information which will allow the instructor to authenticate this documentation will result in an invalidation of the documentation and a score of zero on the exam. It is the student's responsibility to ensure that the documentation can be authenticated. If a student's documentation is subsequently invalidated, he or she will receive a zero on the exam.

### **Labs**

Labs will serve two purposes. First, this will be your opportunity to attempt questions of the type you will see on the exams, but with the T.A.'s available to help you. In addition, you will learn and practice SPSS skills, and these skills will ultimately be tested in a lab practical. Any lab assignments or worksheets will be posted to the Blackboard by the time lab begins, and you will be able to access these materials during lab.

A \$15 lab fee, payable to the Department of Sociology, will be charged to cover costs related to copying of course handouts, lab supplies, and printing in the Tri-faculties lab. The mandatory \$15 lab fee will be collected **by your TA** during the second week of classes. If this fee is not paid by Thursday, January 21, 2009, you will lose your printing privilege in the lab and we will not grade your lab practical.

If you miss labs, *it is your responsibility* to get assignments and seek help for any material you may have missed. You will still be responsible for all material, including the SPSS work and the lab practical, even if you have an excused absence.

## **Homework**

Practice problems will be given out with each chapter. These practice problems will be posted on the class Blackboard, and it is your responsibility to download them, as well as any review sheets for exams. Practice problems will cover a chapter of our text, although I may have two sets of problems for longer chapters. However, ***work on these problems will not be graded***. It is *your responsibility* to work on the problems as practice for the exam. These problems will be very similar to some of the problems you will see on the exam. Failure to prepare for the exam by working on these practice problems will most likely strongly affect your grade. You will also be given fully worked answer keys (i.e., not simply the answers, but, if work is required on these problems, examples of how the work was done). You are strongly urged to compare your answers on the practice problems to the answer keys and, if you do not understand an answer, seek out an instructor or TA's guidance. ***It is strongly recommended that you complete the practice problems after we cover a chapter. DO NOT WAIT UNTIL WE HAVE COVERED ALL OF THE MATERIAL ON A TEST TO WORK ON THE PRACTICE PROBLEMS!!!*** If your answers on exams do not match the form, structure, and phrasing of answers on the answer keys, you can expect to lose credit on the exams.

## **Class and Lab Behavior**

***Disrespectful behavior, even once, will not be tolerated.*** Consequences for disrespectful or disruptive behavior can include grade penalties (including failing the class) and being asked to leave a classroom, and even on a first offense these penalties are possible. Disrespect includes derisive comments, dismissive or aggressive behavior, or any other treatment that belittles another person. Disruptions include noise, not following the directions of the instructor, or other types of behavior which distract the attention of your instructor or fellow students. Disruptions also include speaking on a phone, text-messaging, playing on the internet, or engaging in any other type of behavior which does not pertain to class. To establish a more learning-conducive classroom atmosphere, ***whining will not be tolerated.*** Specific penalties for disrespectful or disruptive behavior will be assigned when the behavior occurs, and these penalties are the prerogative of your instructor. ***Once assigned, these penalties will not be reduced.*** I also reserve the right to adjust your final grade (upwards or downwards) based on your behavior in the class.

### A Note on Laptops

***Laptops should be used for taking notes and other class work only.*** If a student is observed using a laptop during class for instant messaging, e-mailing, work for other classes, or surfing the internet more than once, he or she will lose the right to use a laptop. Downloading “adult” material during class will result in not only the loss of the privilege to use a laptop during class, but the deduction of a full letter from one’s final grade—***and this applies to the first offense.***

### ***TWO IMPORTANT NOTES ON CLASS PARTICIPATION***

To facilitate respectful behavior, I request that before asking questions or making comments during lecture, you first *raise your hand* and then *wait to be called on*. This policy is based on your instructor’s own experiences as a student. He has found that in classes in which people are encouraged to consider their words before speaking, and do not simply blurt things out, often a more sophisticated level of discourse is achieved. Also, please understand if I do not call on you immediately. I may be in the middle of explaining a concept and feel that it will be confusing to stop to answer a question.

Students in statistics sometimes have a tendency to refrain from participating in class. This is understandable, as many students find the material quite challenging. However, it has been the instructor’s experience that active participation in class facilitates mastery of statistics. For this reason, the instructor ***will not*** wait for students to ask questions and ***will actively call on all students*** with questions or clarifications regarding class material, ***regardless of whether a student’s hand is raised.*** This will encourage greater attention to lectures, as well as more active learning. This may also mean, though, that you or another student are presented with a situation in which you are unsure or do not know an answer to your instructor’s questions. *Indicating that you do not know an answer is perfectly acceptable.* What will not be tolerated is any type of derision by other students when a student indicates that he or she does not know an answer to a question. In addition, students should remain respectful of their instructor—hostility to being called on in class will not be tolerated, and will result in a reduction in a student’s final grade and/or being asked to leave class.

### **A note on academic dishonesty:**

Instances of academic dishonesty will result in a zero for the assignment or exam in which the cheating occurs. Using work which is not your own is academic dishonesty. Academic dishonesty of this type includes: having someone else do work and claiming the work as your own, or copying other students’ work. Other types of academic dishonesty include gaining access to materials before they are given. This is not an exhaustive list of activities which may fall under the category of academic dishonesty. If you are not sure whether an action would be academic dishonesty, please ask before you take this action.

### **Punctuality**

Because of the pace of this class, I plan on starting promptly. To avoid distracting your fellow students, please try to avoid coming in late or leaving early. Your instructor can not be held responsible for announcements or material you may have missed due to tardiness. Your instructor reserves the right to begin assigning penalties for coming in late or leaving early.

## **Getting Help**

Statistics is often difficult for students because you are learning both a new language and a new worldview. *If you have trouble, this does not mean I will think you are unintelligent!!!!*

Many students will become confused with statistics at times. Get help! Ask questions in class or lab. Come to office hours, or contact me by email to arrange an appointment. I will often be in my office outside of office hours. ***PLEASE DON'T HESITATE TO APPROACH US TO GET THE HELP YOU NEED!!!***

## **How are Grade Disputes Handled?**

Students are encouraged to resolve grade disputes by discussing the situation with the instructor. Please do so in person. At this meeting, the student's arguments will be carefully considered and, hopefully, a resolution attained that meets with mutual satisfaction. A student seeking reappraisal of graded exams must discuss this work with the instructor within two weeks of the date the exam is handed back. However, please note that, consistent with Faculty of Social Sciences regulations, the entire exam will be remarked and the mark may be raised, lowered or remain the same. Please note that the instructor, not the TA's, is responsible for all grade disputes.

***Emergency evacuations:***

In the case of fire or other emergency evacuation of this classroom/lab, please proceed to the assembly point by the Food Court in the Professional Faculties Building.

***Ethics Research:*** Students are advised that any research with human subjects--including any interviewing (even with friends and family), opinion polling, or unobtrusive observation--must have the approval of the Departmental Ethics Committee. In completing course requirements, students must not undertake any human subjects research without discussing their plans with the instructor, to determine if ethics approval is required.

***Academic Misconduct:*** Plagiarism, cheating and other academic misconduct are regarded as serious academic offences. Students are advised to consult the University Calendar which presents a Statement of Intellectual Honesty and definitions and penalties associated with cheating, plagiarism, and other academic misconduct.

***The Freedom of Information and Protection of Privacy (FOIP)*** legislation disallows the practice of having students retrieve assignments from a public place, e.g., outside an instructor's office or the Department main office. Written assignments must be returned to students individually, during class, or during the instructor's office hours; if a student is unable to pick up her/his assignment s/he may provide the instructor with a stamped, self-addressed envelope to be used for the return of the assignment.

***Safewalk:*** The University of Calgary provides a "safe walk" service to any location on Campus, including the LRT, parking lots, bus zones, and campus housing. For Campus Security/Safewalk call 220-5333. Campus Security can also be contacted from any of the "Help" phones located around Campus.

***Academic Accommodation:*** Students with a disability, who require academic accommodation, need to register with the Disability Resource Centre (MC 295, phone 220-8237). Academic accommodation letters need to be provided to course instructors no later than fourteen (14) days after the first day of class. **It is a student's responsibility to register with the Disability Resource Centre and to request academic accommodation, if required.**

***Handing in papers outside of class, return of final papers, and release of final grades:***

1. When students are unable to submit papers in class, they should make arrangements to hand in their papers directly to the instructor or teaching assistant. Papers will not be accepted in the main Sociology Department office.
2. Final papers will not be returned through the main Sociology Department office. The Freedom of Information and Privacy (FOIP) legislation disallows the practice of having students retrieve assignments from a public place (i.e. outside an instructor's office, the department office etc.) Students who want their final papers returned by mail must attach a stamped, self-addressed envelope with the paper. Otherwise final papers will be available for pick-up only during the instructor's office hours at the end of this term or at the beginning of the next term.
3. Final grades are not posted by the Sociology Department. They are available only online.

## Tentative Course Schedule

*(Please note that this is indeed tentative.* Given the pace of the class, I may choose to change the time spent on some subject matter. I will try to do my best to maintain the dates on which tests are given, but these may change as well)

Tu	1/12	<b>READ THE SYLLABUS.</b> Review of 311 (SSDS, Chap. 1-5, 10)
Th	1/14	Review of 311/Probability and the Normal Distribution (SSDS, Chap. 6)
Tu	1/19	Finish Probability and the Normal Distribution
Th	1/21	Introduction to the Sampling Distribution (SSDS, Chap. 7)
Tu	1/26	Sampling Distribution and Confidence Intervals (SSDS, Chap. 7-8)
Th	1/28	Finish Sampling Distribution and Confidence Intervals (SSDS, Chap. 7-8); begin Hypothesis Testing of Two-Sample Means (SSDS, Chap. 9)
Tu	2/2	Finish Hypothesis Testing of Two-Sample Means; begin Extensions of Hypothesis Testing (some in SSDS, Chap. 9)
Th	2/4	Finish Extensions of Hypothesis Testing (some in SSDS, Chap. 9)
Tu	2/9	Chi-square (includes review of Cross-tabs; SSDS, 307-319 and Chapter 11) <b>not on exam 1</b>
Th	2/11	Review for Exam 1
Tu	2/16	<b>Reading week, no class</b>
Th	2/18	<b>Reading week, no class</b>
Tu	2/23	<b>Review for exam 1. Exam 1 in Lab—ST 126!!!!</b>
Th	2/25	ANOVA
Tu	3/2	Bivariate regression and correlation(SSDS, Chap. 13; Allison, Chap. 5)
Th	3/4	Bivariate regression and correlation(SSDS, Chap. 13; Allison, Chap. 5)

Tu	3/9	Hypothesis testing and bivariate regression
Th	3/11	Multiple regression
Tu	3/16	Multiple Regression
Th	3/18	Review for Exam 2
Tu	3/23	<b>Review for Exam 2. Exam 1 in Lab—ST 126!!!!</b>
Th	3/25	Dummy variables and non-linear relationships
Tu	3/30	Mediation
Th	4/1	Checking assumptions of regression
Tu	4/6	Checking assumptions of regression
Th	4/8	Review for lab practical
Tu	4/13	Review for final & lab practical and <b>lab practical in lab</b>
Th	4/15	Review for final